

What is claimed is:

1. A process for preparing colored vulcanized rubber granules comprising:

adding aqueous pigment dispersion to uncolored vulcanized rubber granules;

mixing said pigment and rubber granules a first predetermined period of time at ambient temperature to achieve uniform color coverage onto said vulcanized rubber granules to thereby form colored vulcanized rubber granules;

adding elastomer latex to said colored vulcanized rubber granules;

mixing said elastomer latex and said colored vulcanized rubber granules a second predetermined period of time at ambient temperature to achieve uniform rubber coating onto colored vulcanized rubber granules to thereby form rubber coated colored vulcanized rubber granules; and

drying said rubber coated colored vulcanized rubber granules for a third predetermined period of time.

2. The process of claim 1, wherein the first predetermined period of time is between about 1 to 10 minutes.
3. The process of claim 1, wherein the second predetermined period of time is between about 3 to 8 minutes.
4. The process of claim 1, wherein the drying step is accomplished at a temperature range between about 90-120°C.
5. The process of claim 1, wherein the drying step occurs at ambient temperature.
6. The process of claim 1, wherein the aqueous pigment dispersion is added to vulcanized rubber particles in a concentration range of 0.01 to 5.00 weight percent with respect to the amount of rubber used.
7. The process of claim 1, wherein the elastomer latex is added to vulcanized rubber particles contacted with aqueous pigment dispersion at a concentration range of 0.01 to 4.00 weight percent with respect to the amount of rubber used.
8. The process of claim 1, wherein the concentration of water in the mixture is in the range of 0.01 to 5.00 weight percent.
9. The process of claim 1, wherein the aqueous pigment dispersion is comprised of an organic pigment, an opacifying pigment such as titanium dioxide, zinc oxide or silicon dioxide and optionally an extender such as calcium carbonate.

10. The process of claim 9, wherein the total solids content of the aqueous organic pigment dispersion is in the range of 35 to 55 weight percent.

11. The process of claim 1, wherein the elastomer latex is styrene/butadiene (SBR) rubber optionally modified by the addition of hydroxyl and/or carboxyl groups.

12. The process of claim 1, wherein the elastomer latex is polybutadiene (PBD) rubber.

13. The process of claim 1, wherein the elastomer latex is acrylic rubber optionally modified by co and/or terpolymerization.

14. The process of claim 13, wherein the acrylic rubber has a glass transition temperature (T_g) in the range -13°C to -70°C .

15. A method of preparing colored rubber particles, comprising:

mixing vulcanized rubber particles with an aqueous pigment dispersion to form a mixture;

stirring said mixture to color coat said rubber particles to thereby form color coated rubber particles;

adding an elastomer latex to the mixture to encapsulate said color coated rubber particles; and

drying said encapsulated rubber particles to thereby form a protective film around said color coated rubber particles.

16. The process of claim 15, wherein said step of adding said elastomer latex is a step separate from the mixing step.

17. The process of claim 15, wherein said pigment comprises an organic pigment.

18. The process of claim 15, wherein said pigment comprises an inorganic pigment.

19. The process of claim 17, wherein said aqueous organic pigment dispersion has a total solids content of about 40 to 60 percent.

20. The process of claim 15, wherein said elastomer comprises styrene/butadiene rubber.

21. The process of claim 18, wherein said aqueous inorganic pigment dispersion further comprises an opacifying pigment and an extender.

22. The process of claim 18, wherein said elastomer comprises a functionalized polyacrylate multipolymer.

23. The process of claim 18, wherein said aqueous inorganic polymer dispersion further comprises an anionic surfactant.
- 5 24. The process of claim 23, wherein said inorganic pigment dispersion further comprises an extender and an opacifying pigment.
25. A playground surface material comprising:
- 10 vulcanized rubber particles;
- a color coating covering and adhering to said vulcanized rubber particles to thereby form color coated vulcanized rubber particles; and
- 15 an elastomer encapsulating said color coated vulcanized rubber particles.
26. The playground surface material of claim 25, wherein said color coating comprises an organic pigment.
27. The playground surface material of claim 26, wherein said color coating further comprises an opacifying pigment.
28. The playground surface material of claim 25, wherein said color coating further comprises an extender.
29. The playground surface material of claim 25, wherein said elastomer comprises a styrene/butadiene rubber.
30. The playground surface material of claim 25, wherein said color coating comprises an inorganic pigment.
31. The playground surface material of claim 29, further comprising an anionic surfactant and an opacifying pigment.
- 35 32. The playground surface material of claim 31, wherein said elastomer comprises a functionalized polyacrylate multipolymer.
33. The playground surface material of claim 31, wherein said color coating further comprises an extender.
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